

PA-Score

PA SCORESHEETS

Site Name: Nucor Steel
CERCLIS ID No.: 044940369
Street Address: US Hwy 52
City/State/Zip: Darlington, SC 29532

Investigator: Donna Sightler
Agency/Organization: SCDHEC
Street Address: 2600 Bull St.
City/State: Cola., SC

Date: 11-24-92



10705974

WASTE CHARACTERISTICS

Waste Characteristics (WC) Calculations:

1 IWP-208	Landfill	WQ value	maximum
Area	7.50E-01 acres	9.62E+00	9.62E+00
2 Five Ponds	Surface impoundment	WQ value	maximum
Area	1.20E+00 acres	4.14E+03	4.14E+03
3 soil	Contaminated soil	WQ value	maximum
Area	1.00E+01 acres	1.28E+01	1.28E+01
4 slag pile	Pile	WQ value	maximum
Volume	2.50E+04 cu ft	3.70E+02	3.70E+02

WQ total 4.53E+03

** Only First WC Page Is Printed **

Waste Characteristics Score: WC = 32

Ground Water Pathway Criteria List
Suspected Release

Are sources poorly contained? (y/n/u)	N
Is the source a type likely to contribute to ground water contamination (e.g., wet lagoon)? (y/n/u)	Y
Is waste quantity particularly large? (y/n/u)	Y
Is precipitation heavy? (y/n/u)	Y
Is the infiltration rate high? (y/n/u)	Y
Is the site located in an area of karst terrain? (y/n)	N
Is the subsurface highly permeable or conductive? (y/n/u)	Y
Is drinking water drawn from a shallow aquifer? (y/n/u)	Y
Are suspected contaminants highly mobile in ground water? (y/n/u)	U
Does analytical or circumstantial evidence suggest ground water contamination? (y/n/u)	Y

Other criteria? (y/n) N

SUSPECTED RELEASE? (y/n) Y

Summarize the rationale for Suspected Release:

Ground Water Pathway Criteria List
Primary Targets

Is any drinking water well nearby? (y/n/u)	Y
Has any nearby drinking water well been closed? (y/n/u)	N
Has any nearby drinking water well user reported foul-testing or foul-smelling water? (y/n/u)	N
Does any nearby well have a large drawdown/high production rate? (y/n/u)	N
Is any drinking water well located between the site and other wells that are suspected to be exposed to a hazardous substance? (y/n/u)	U
Does analytical or circumstantial evidence suggest contamination at a drinking water well? (y/n/u)	N
Does any drinking water well warrant sampling? (y/n/u)	U

Other criteria? (y/n) N

PRIMARY TARGET(S) IDENTIFIED? (y/n) N

Summarize the rationale for Primary Targets:

GROUND WATER PATHWAY SCORESHEETS

Pathway Characteristics

Do you suspect a release? (y/n)			Yes	Ref.
Is the site located in karst terrain? (y/n)			No	
Depth to aquifer (feet):			15	
Distance to the nearest drinking water well (feet):			900	
LIKELIHOOD OF RELEASE	Suspected Release	No Suspected Release	References	
1. SUSPECTED RELEASE	550			
2. NO SUSPECTED RELEASE		0		
LR =		550 0		

Targets

TARGETS	Suspected Release	No Suspected Release	References
3. PRIMARY TARGET POPULATION 0 person(s)	0		
4. SECONDARY TARGET POPULATION Are any wells part of a blended system? (y/n) N	13	0	
5. NEAREST WELL	20	0	
6. WELLHEAD PROTECTION AREA None within 4 Miles	0	0	
7. RESOURCES	5	0	
T =	38	0	

WASTE CHARACTERISTICS

WC =

32	0
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GROUND WATER PATHWAY SCORE:

8

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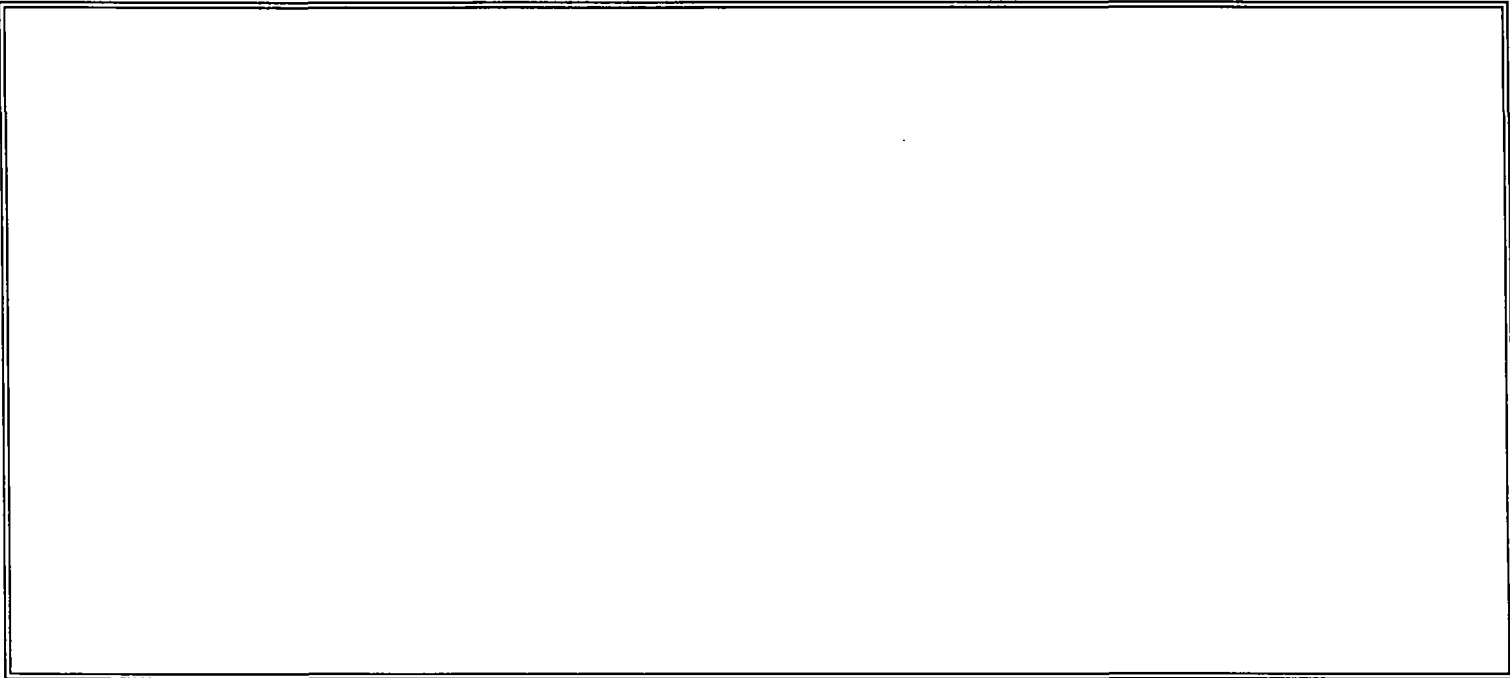
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Ground Water Target Populations

Primary Target Population Drinking Water Well ID	Dist. (miles)	Population Served	Reference	Value
None				
*** Note : Maximum of 5 Wells Are Printed ***				Total

Secondary Target Population Distance Categories	Population Served	Reference	Value
0 to 1/4 mile	6		1
Greater than 1/4 to 1/2 mile	17		1
Greater than 1/2 to 1 mile	41		2
Greater than 1 to 2 miles	179		3
Greater than 2 to 3 miles	232		2
Greater than 3 to 4 miles	500		4
Total			13

Apportionment Documentation for a Blended System

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Surface Water Pathway Criteria List
Suspected Release

Is surface water nearby? (y/n/u)	Y
Is waste quantity particularly large? (y/n/u)	Y
Is the drainage area large? (y/n/u)	Y
Is rainfall heavy? (y/n/u)	Y
Is the infiltration rate low? (y/n/u)	U
Are sources poorly contained or prone to runoff or flooding? (y/n/u)	Y
Is a runoff route well defined(e.g.ditch/channel to surf.water)? (y/n/u)	Y
Is vegetation stressed along the probable runoff path? (y/n/u)	Y
Are sediments or water unnaturally discolored? (y/n/u)	U
Is wildlife unnaturally absent? (y/n/u)	U
Has deposition of waste into surface water been observed? (y/n/u)	U
Is ground water discharge to surface water likely? (y/n/u)	Y
Does analytical/circumstantial evidence suggest S.W. contam? (y/n/u)	Y

Other criteria? (y/n) N

SUSPECTED RELEASE? (y/n) Y

Summarize the rationale for Suspected Release:

Surface Water Pathway Criteria List
Primary Targets

Is any target nearby? (y/n/u)	If yes:	Y
Drinking water intake		
Y Fishery		
Y Sensitive environment		
Has any intake, fishery, or recreational area been closed? (y/n/u)		N
Does analytical or circumstantial evidence suggest surface water contamination at or downstream of a target? (y/n/u)		Y
Does any target warrant sampling? (y/n/u)	If yes:	Y
Drinking water intake		
Y Fishery		
Y Sensitive environment		

Other criteria? (y/n) N

PRIMARY INTAKE(S) IDENTIFIED? (y/n)

Summarize the rationale for Primary Intakes:

continued -----

continued -----

Other criteria? (y/n) N

PRIMARY FISHERY(IES) IDENTIFIED? (y/n) Y

Summarize the rationale for Primary Fisheries:

Other criteria? (y/n) N

PRIMARY SENSITIVE ENVIRONMENT(S) IDENTIFIED? (y/n) Y

Summarize the rationale for Primary Sensitive Environments:

SURFACE WATER PATHWAY SCORESHEETS

Pathway Characteristics

		Ref.
Do you suspect a release? (y/n)	Yes	
Distance to surface water (feet):	10	
Flood frequency (years):	100	
What is the downstream distance (miles) to:		
a. the nearest drinking water intake?	N.A.	
b. the nearest fishery?	0.0	
c. the nearest sensitive environment?	0.0	

LIKELIHOOD OF RELEASE	Suspected Release	No Suspected Release	References
1. SUSPECTED RELEASE	550		
2. NO SUSPECTED RELEASE		0	
LR =	550	0	

Drinking Water Threat Targets

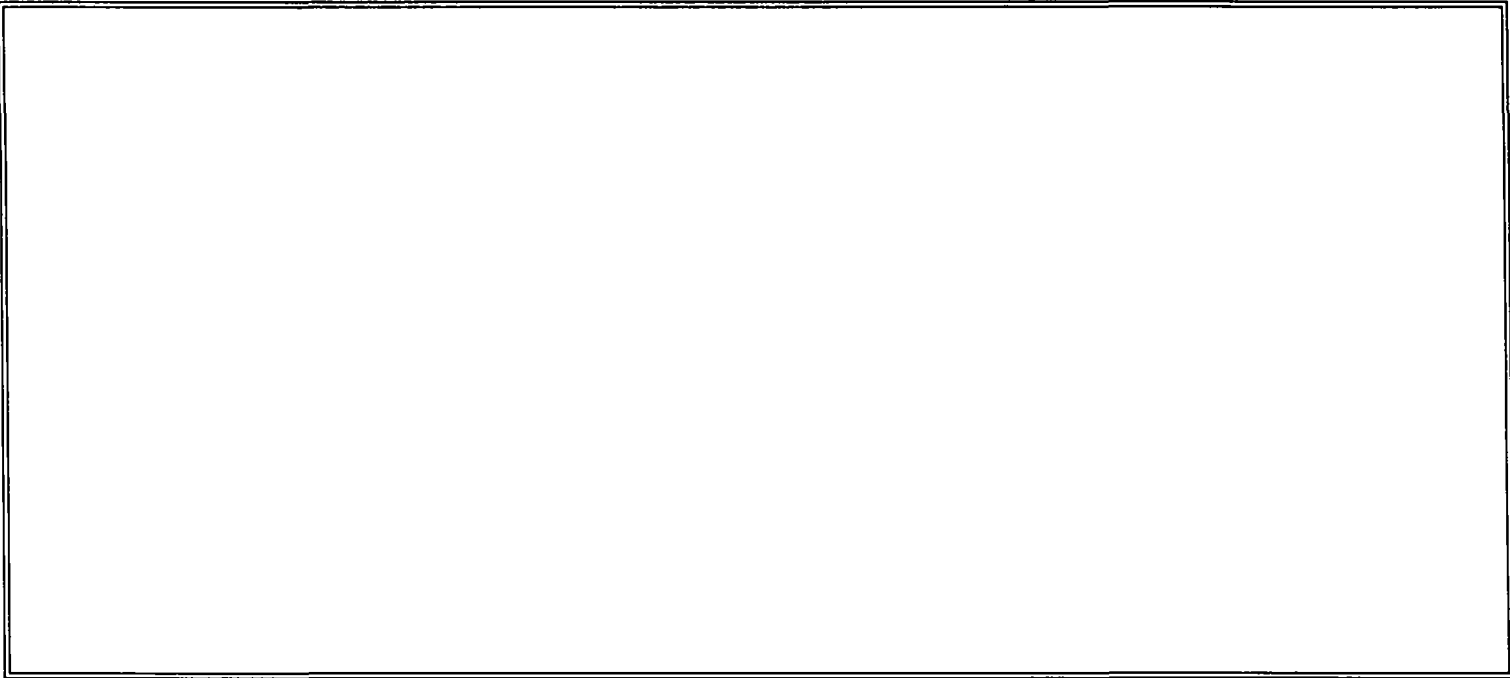
TARGETS	Suspected Release	No Suspected Release	References
3. Determine the water body type, flow (if applicable), and number of people served by each drinking water intake.			
4. PRIMARY TARGET POPULATION 0 person(s)	0		
5. SECONDARY TARGET POPULATION Are any intakes part of a blended system? (y/n): N	0	0	
6. NEAREST INTAKE	0	0	
7. RESOURCES	5	0	
T =	5	0	

Drinking Water Threat Target Populations

Intake Name	Primary (y/n)	Water Body Type/Flow	Population Served	Ref.	Value
None					
Total Primary Target Population Value					0
Total Secondary Target Population Value					0

*** Note : Maximum of 6 Intakes Are Printed ***

Apportionment Documentation for a Blended System

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Human Food Chain Threat Targets

TARGETS	Suspected Release	No Suspected Release	References
8. Determine the water body type and flow for each fishery within the target limit.			
9. PRIMARY FISHERIES	300		
10. SECONDARY FISHERIES	0	0	
T =	300	0	

Human Food Chain Threat Targets

Fishery Name	Primary (y/n)	Water Body Type/Flow	Ref.	Value
1 Black Creek	Y	primary fishery		300
2 Lucas Creek	Y	primary fishery		300
3 Unnamed Pond	Y	primary fishery		300
Total Primary Fisheries Value				300
Total Secondary Fisheries Value				0

*** Note : Maximum of 6 Fisheries Are Printed ***

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Environmental Threat Targets

TARGETS	Suspected Release	No Suspected Release	References
11. Determine the water body type and flow (if applicable) for each sensitive environment.			
12. PRIMARY SENSITIVE ENVIRONMENTS	300		
13. SECONDARY SENSITIVE ENVIRONS.	0	0	
T =	300	0	

Environmental Threat Targets

Sensitive Environment Name	Primary (y/n)	Water Body Type/Flow	Ref.	Value
1 Wetlands	Y	primary sens. envir.		300
Total Primary Sensitive Environments Value				300
Total Secondary Sensitive Environments Value				0
*** Note: Maximum of 6 Sensitive Environments Are Printed ***				

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Surface Water Pathway Threat Scores

Threat	Likelihood of Release(LR) Score	Targets(T) Score	Pathway Waste Characteristics (WC) Score	Threat Score LR x T x WC / 82,500
Drinking Water	550	5	32	1
Human Food Chain	550	300	32	64
Environmental	550	300	32	60

SURFACE WATER PATHWAY SCORE:

100

Soil Exposure Pathway Criteria List
Resident Population

Is any residence, school, or daycare facility on or within 200 feet of an area of suspected contamination? (y/n/u)	U
Is any residence, school, or daycare facility located on adjacent land previously owned or leased by the site owner/operator? (y/n/u)	Y
Is there a migration route that might spread hazardous substances near residences, schools, or daycare facilities? (y/n/u)	Y
Have onsite or adjacent residents or students reported adverse health effects, exclusive of apparent drinking water or air contamination problems? (y/n/u)	N
Does any neighboring property warrant sampling? (y/n/u)	Y

Other criteria? (y/n) Y

RESIDENT POPULATION IDENTIFIED? (y/n) Y

Summarize the rationale for Resident Population:

SOIL EXPOSURE PATHWAY SCORESHEETS

Pathway Characteristics

	Ref.
Do any people live on or within 200 ft of areas of suspected contamination? (y/n) Yes	
Do any people attend school or daycare on or within 200 ft of areas of suspected contamination? (y/n) Yes	
Is the facility active? (y/n): Yes	

LIKELIHOOD OF EXPOSURE	Suspected Contamination	References
1. SUSPECTED CONTAMINATION LE =	550	

Targets

2. RESIDENT POPULATION 2 resident(s) 0 school/daycare student(s)	20	
3. RESIDENT INDIVIDUAL	50	
4. WORKERS 101 - 1000	10	
5. TERRES. SENSITIVE ENVIRONMENTS	0	
6. RESOURCES	5	
T =	85	

WASTE CHARACTERISTICS

WC =

32

RESIDENT POPULATION THREAT SCORE:

18

NEARBY POPULATION THREAT SCORE:

1

Population Within 1 Mile: 1 - 10,000

SOIL EXPOSURE PATHWAY SCORE:

19

Soil Exposure Pathway Terrestrial Sensitive Environments

Terrestrial Sensitive Environment Name	Reference	Value
None		
Total Terrestrial Sensitive Environments Value		

*** Note : Maximum of 7 Sensitive Environments Are Printed ***

Air Pathway Criteria List
Suspected Release

Are odors currently reported? (y/n/u) N

Has release of a hazardous substance to the air
been directly observed? (y/n/u) Y

Are there reports of adverse health effects (e.g., headaches,
nausea, dizziness) potentially resulting from migration
of hazardous substances through the air? (y/n/u) N

Does analytical/circumstantial evidence suggest release to air? (y/n/u) U

Other criteria? (y/n) N

SUSPECTED RELEASE? (y/n) N

Summarize the rationale for Suspected Release:

AIR PATHWAY SCORESHEETS

Pathway Characteristics

Do you suspect a release? (y/n)			No	Ref.
Distance to the nearest individual (feet):			190	
LIKELIHOOD OF RELEASE	Suspected Release	No Suspected Release	References	
1. SUSPECTED RELEASE	0			
2. NO SUSPECTED RELEASE		500		
LR =		0		

Targets

TARGETS	Suspected Release	No Suspected Release	References
3. PRIMARY TARGET POPULATION 0 person(s)	0		
4. SECONDARY TARGET POPULATION	0	58	
5. NEAREST INDIVIDUAL	0	20	
6. PRIMARY SENSITIVE ENVIRONS.	0		
7. SECONDARY SENSITIVE ENVIRONS.	0	3	
8. RESOURCES	0	5	
T =	0	86	

WASTE CHARACTERISTICS

WC =

0	32
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AIR PATHWAY SCORE:

17

Air Pathway Secondary Target Populations

Distance Categories	Population	References	Value
Onsite	500		52
Greater than 0 to 1/4 mile	59		1
Greater than 1/4 to 1/2 mile	115		1
Greater than 1/2 to 1 mile	261		1
Greater than 1 to 2 miles	1019		1
Greater than 2 to 3 miles	845		1
Greater than 3 to 4 miles	3823		1
Total Secondary Population Value			58

Air Pathway Primary Sensitive Environments

Sensitive Environment Name	Reference	Value
None		
Total Primary Sensitive Environments Value		

*** Note : Maximum of 7 Sensitive Environments Are Printed***

Air Pathway Secondary Sensitive Environments

Sensitive Environment Name	Distance	Reference	Value
1 Wetlands	0 - 1/4		2.5
2 Endangered Species	>1/4-1/2		0.5
Total Secondary Sensitive Environments Value			3

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SITE SCORE CALCULATION	SCORE
GROUND WATER PATHWAY SCORE:	8
SURFACE WATER PATHWAY SCORE:	100
SOIL EXPOSURE PATHWAY SCORE:	19
AIR PATHWAY SCORE:	17
SITE SCORE:	52

SUMMARY

1. Is there a high possibility of a threat to any nearby drinking water well(s) by migration of a hazardous substance in ground water? No

If yes, identify the well(s).

If yes, how many people are served by the threatened well(s)? 0

2. Is there a high possibility of a threat to any of the following by hazardous substance migration in surface water?
- | | |
|--|-----|
| A. Drinking water intake | No |
| B. Fishery | Yes |
| C. Sensitive environment (wetland, critical habitat, others) | Yes |

If yes, identify the target(s).

Fishery and wetlands located adjacent to Nucor.
See Surface Water Use Section of Nucor PA.

3. Is there a high possibility of an area of surficial contamination within 200 feet of any residence, school, or daycare facility? Yes

If yes, identify the properties and estimate the associated population(s)
Trailer with 2 residences is located off-site at the emissions dust disposal area. See the Soil Exposure Pathway Section of the PA.

4. Are there public health concerns at this site that are not addressed by PA scoring considerations? No

If yes, explain:

REFERENCE LIST

VIII. REFERENCES

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2. United States Geological Survey. Topographical Map - 7.5 minute series.
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Mont Clair - 1963
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Darlington West - 1963
3. Sightler, Donna P. Record of Communication (ROC) to Nucor Steel Company - Conversation with Mr. Walter Postlethwait concerning site specific information for Preliminary Assessment. Copy Attached.
4. SCDHEC-Bureau of Water Quality Assessment and Enforcement Division: Nucor Steel Company, Water Quality File: Groundwater Assessment Report on October 3, 1991 and Preliminary Assessment on August 14, 1990. Copy Attached.
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6. SCDHEC-Bureau of Solid and Hazardous Waste. Nucor Steel Company, BSHWM File. Letter to BSHWM, attn. Cliff Caseey from Mark Millett concerning Permit Application. August 30, 1985. Copy Attached.
7. SCDHEC-Bureau of Solid and Hazardous Waste. Nucor Steel Company, BSHWM File: June 4, 1991. Copy Attached.
8. SCDHEC-Bureau of Solid and Hazardous Waste. Nucor Steel Company, BSHWM File: Copy Attached.
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Nucor Steel Company, Water Quality File: Consent Order 86-86-W,
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BSHWM File. Letter to Bill Dauksch from Melissa Johnston
concerning removal of waste piles. March 13, 1984. Copy Attached.
14. South Carolina Water Resources Commission. Copy Attached.
15. SCDHEC, Bureau of Water Supply, Surface Water Treatment Plant, Intakes
Map of S.C. Copy Attached.
16. The South Carolina Heritage Trust Foundation. Dated January 1992.
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19. Federal Register December 14, 1991.
20. Sightler, Donna P. ROC to Nucor Steel File: Conversation with Shelly
Sherritt concerning RCRA. November 4, 1992. Copy Attached.
21. SCDHEC - Permitting Files - Nucor Plant Layout drawn by J. Kizziar on
January 25, 1992.
22. SCDHEC - Permitting Files - Topo Map of landfill site. Dated November 11,
1984. By Ferrall J. Prosser.

23. SCDHEC Bureau of Solid and Hazardous RCRA Waste Generator Index. Computer printout dated Feb. 12, 1990.
24. SCDHEC-Bureau of Solid and Hazardous Waste. Nucor Steel Company, BSHWM File. Letter from Howard Petrie to April Grunsky. Copy Attached.
25. U.S. Census Bureau. General Housing Characteristics, 1990. Copy Attached.
26. Ground Water Sources Inventory. Copy Attached.
27. General Engineering Laboratories. Original Drawing by Nucor Steel Drawing #56-E-1712. Figure 2. Dated October 1, 1991.